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REMARKS

Allowable Subject Matter

Claims 4-5, 9-10, 17-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter:

"The prior art of record fail to anticipate or render obvious the following limitations as claimed:

"the processor unit is arranged for calculating pixel column positions for desired horizontal frame edges of each displayed individual video image, and for determining a horizontal scale for each displayed individual video image based on the calculated pixel column positions" as recited in claims 4 and 17;

"wherein the display unit is arranged for effecting a change in the horizontal span of each displayed individual video image without changing a vertical span of each displayed individual video image" as recited in claims 5 and 18;

"wherein the distance sensor unit comprises a pair of sensor elements associated with each location camera, and wherein the sensor elements of the pair are arranged for sensing distances of closest objects from the associated location camera along opposite vertical edges of the field of view said associated location camera" as recited in claims 9 and 19."

Applicant appreciates the Examiner's diligence in indicating allowable subject matter, but respectfully submits that claims 1-28 are believed to contain allowable subject matter for the reasons explained below.

Claim Rejections - 35 USC §103

Claims 1-2, 11-12, 14-16, 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al, (US 6,335,754, hereinafter "Endo").

Regarding claims 1-2, Applicant respectfully traverse the rejections since the Applicant's claimed combination, as exemplified in claim 1, includes the limitation not disclosed in Endo of:

"a distance sensor unit for sensing distances of closest objects in one or more overlap areas between field of views of the location cameras from the two or more location cameras covering each respective overlap area;"

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It is respectfully submitted that Endo provides a system for "Panoramic Image Synthesis", or looking at everything surrounding a camera at long distances, and that distance to an object is not a factor in synthesizing panoramic images. The Examiner states in the Office Action:

"(Endo does not explicitly disclose a distance sensor unit as claimed. However, Endo teaches (see fig. 22, also col. 13, lines 7-57) generating a synthesized panoramic image so that images of an object **P** located at a distance L_0 , are smoothly connected upon interpolation of images obtained from two cameras. A triangular region having a point **P** as a vertex in front of the cameras is a dead zone. A point **P'** (i.e. distance L) is the one in a region doubly sensed by both the cameras, in effect, the overlapping region. Hence, when the two images are connected, the object **P** forms double images, and the difference between the image locations of the double images are obtained. Thus, the overlap angle between a pair of cameras 20a and 20b, 20c and 20d, or 20e and 20f (see fig. 8) is set in consideration of the above difference. ...)" [bold in original and deletion for clarity]

Applicant respectfully submits that the distances P , L_0 , P , and L are set by the geometry of the cameras. The above indicates that when two images form a double image they can be interpolated into a single image. Endo FIGs. 8 and 22, and Endo col. 13, lines 7-57 do not disclose a "distance sensor unit for sensing distances."

The Examiner continues:

"Furthermore, Endo takes into consideration the distance to the closest object during synthesizing the panoramic image (see col. 13, lines 38-57)."

While Endo takes into consideration the distance to the closest object, it does not measure the distance as indicated in the Examiner cited col. 13, lines 38-57, quoted below:

<Generation of Panoramic Image>

FIG. 22 is a view for explaining the overlap angle between adjacent field ranges of the six cameras (20a to 20g) shown in FIG. 8.

A general case will be examined below wherein...(a panoramic image is generated) so that images of an object...located at a distance...are smoothly connected upon interpolation of images obtained from two cameras (having the same field angle) which are separated by a distance...

Hence, when the two images are connected, the object...forms double images, and the difference between the imaging locations of the double images is [mathematically calculated by an Equation (3)]...

The overlap angle between a pair of cameras...is [physically] set in consideration of the above difference.

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Upon calculating the difference..., if the joint between images of an object 3 m ahead of the cameras is [physically] optimized, an object 10 m ahead of the cameras forms double images with an angle difference [calculated to be] of 6.5° . (1.1 m in distance), and an infinity object forms double images with an angle difference [calculated to be] of 9.3° .

As for [side] cameras, since their image sensing centers are close to each other, image interpolation is performed in consideration of double imaging taking the above equation into account. On the other as for image data from [back] camera, since image data at time...is recorded..., image interpolation is performed using image data for [back] camera...in the database." [underlining, insertions, and deletions for clarity]

It is respectfully submitted that the discussion of the angles and distances at which the cameras form double images are calculated in accordance with the physical settings of the cameras and not from sensing distance.

As explained above, it is respectfully submitted that Endo does not disclose a "distance sensor unit for sensing distances."

If the Examiner continues to believe that a distance sensor is inherent in Endo, Applicant respectfully submits that this belief must be based on personal knowledge so Applicant respectfully requests an Examiner Affidavit disclosing the Examiner's personal knowledge regarding this limitation pursuant to 37 CFR §1.104(d)(2) (2002):

"When a rejection in an application is based on facts within the personal knowledge of an employee of the Office, the data shall be as specific as possible and the reference must be supported, when called for by the applicant, by the affidavit of such employee, and such affidavit shall be subject to contradiction or explanation by the affidavits of the applicant and other persons."

Regarding claim 2, Applicant respectfully traverses the rejection since the Applicants' claimed combination includes the limitation not disclosed in Endo of:

"a processor unit for determining a horizontal span of each individual video image displayed by the display unit based on the sensed distances of the closest objects."

Applicant respectfully submits that Endo col. 13, line 58, to col. 14, line 16, does not disclose the claimed limitation because this section states:

"Assuming...image[s]...are horizontally arranged in line to obtain a single panoramic image. The overlapping portion between adjacent images is

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subjected to blending to provide a continuous change." [deletions and insertion for clarity]

The above discloses that the overlapping portion is blended without regard to distance.

Regarding claims 11-12, Applicant respectfully traverses the rejections because it is respectfully submitted that the remarks regarding claims 1-2 are applicable for these claims also. Further, it is respectfully submitted that Endo FIG. 1 shows entrances to the displays so that the displays are not 360°.

Regarding claims 14-16, Applicant respectfully traverses the rejections because it is respectfully submitted that the remarks regarding claims 1-2 are applicable for these claims also.

Regarding claims 21-22, Applicant respectfully traverses the rejections because it is respectfully submitted that the remarks regarding claims 1-2 are applicable for these claims also.

Based on all of the above, it is respectfully submitted that claims 1-2, 11-12, 14-16, 21-22 are allowable under 35 U.S.C. 103(a) as being patentable over Endo because:

"Anticipation requires the disclosure in a single prior art reference disclosure of each and every element of the claim under consideration." W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983) (citing Soundsciber Corp. v. United States, 360 F.2d 954, 960, 148 USPQ 298, 301 (Ct. Cl.), adopted, 149 USPQ 640 (Ct. Cl. 1966)), cert. denied, 469 U.S. 851 (1984). Carella v. Starlight Archery, 804 F.2d 135, 138, 231 USPQ 644, 646 (Fed. Cir.), modified on reh'g, 1 USPQ 2d 1209 (Fed. Cir. 1986); RCA Corp. v. Applied Digital Data Sys., Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

Withdrawal of the rejections is respectfully requested.

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Claims 3, 6-8 and 13 and 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al, (US 6,335,754, hereinafter "Endo") as applied to claims 1-2 and 11-12 and 21-22 above respectively and further in view of Baker, (US 2004/0027451, hereinafter "Baker").

Regarding claim 3, Applicant respectfully traverses the rejection since the Applicants' claimed combination includes the limitation not disclosed in Endo or Baker of:

"four location cameras in a square arrangement for capturing an outwardly directed 360° field of view of the location, and the display unit comprising four display screens in a square arrangement, each display screen arranged for displaying the individual video image of one of the location cameras to a user located inside the square screen arrangement."

It is respectfully submitted that Baker Figure 15a shows four display screens for a user located outside the square screen arrangement rather than inside.

It is further respectfully submitted that the Endo system is a movable system teaching the taking of panoramic scenes so, taken as a whole, there is nothing to teach, suggest, or provide a motivation for combination with Baker, which teaches a stationary videoconferencing system on a table.

Regarding claims 6-8, 13, and 23-28, these dependent claims depend from independent claims 1, 11, or 21, and are believed to be allowable since they contain all the limitations set forth in the independent claim from which they depend and claim additional unobvious combinations. Further, it is respectfully submitted that, taken as a whole, there is no motivation for the combination as explained for claim 3.

Based on all of the above, it is respectfully submitted that claims 3, 6-8 and 13 and 23-28 are allowable under 35 U.S.C. 103(a) as being patentable over Endo as applied to claims 1-2 and 11-12 and 21-22 above respectively and further in view of Baker because:

"[T]he prior art reference (or references when combined) must teach or suggest all the claim limitations." [underlining for clarity] *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)

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The other references cited by the Examiner showing the prior art have been considered and are not believed to disclose, teach, or suggest, either singularly or in combination, Applicants' invention as claimed.

Claim Objections

The Examiner objected to Claim 25 because of the following informality:

In line 2, after the first occurrence of "provide", delete "a provide".

As requested by the Examiner, Applicants have corrected Claim 25 on page 16, and deleted the words --a provide-- in line 2.

Specification Section Changes

Changes to the Specification Section were made as follows:

Applicant has amended the Specification section of this application as follows:

In the Background of the Present Invention section, first paragraph, page 1, --360^a-- has been deleted and "360^o" has been inserted in its place.

In the Background of the Present Invention section, third paragraph, page 1, --360^a-- has been deleted and "360^o" has been inserted in its place.

In the Summary of the Present Invention section, on page 2, in the first paragraph, --In one-- has been deleted and "One" has been inserted in its place.

In paragraph eight of the Detailed Description of the Embodiments section, on page 4, --360^a-- has been deleted and "360^o" has been inserted in its place.

In paragraph sixteen of the Detailed Description of the Embodiments section, on page 6, --143^a-- has been deleted and "143^o" has been inserted in its place.

In the Detailed Description of the Embodiments section, in paragraph thirty which is on page 9, --Once -- has been deleted and "One" has been inserted in its place.

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Claims Section Changes

Changes to the Claims section were made as follows:

In addition to the Claim 25, line 2, correction requested by the Examiner and addressed in Claim Objections above, Applicant has also made the following additional corrections to the Claims section of this application:

In Claim 3, on line 2, --360^a-- has been deleted and "360^o" has been inserted in its place.

In Claim 13, on line 1, --the-- has been deleted and "The" has been inserted in its place.

In Claim 22, on line 3, --360^a-- has been deleted and "360^o" has been inserted in its place.

In Claim 27, on line 2, --cameraassociated-- has been deleted and "camera associated" has been inserted in its place.

In Claim 27, on line 2, --capturean-- has been deleted and "capture an" has been inserted in its place.

In Claim 27, on line 3, --theunit-- has been deleted and "the unit" has been inserted in its place.

In Claim 27, on line 4, --thecaptured-- has been deleted and "the captured" has been inserted in its place.

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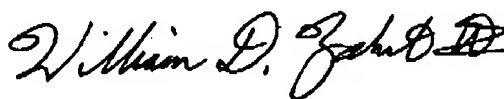
Conclusion

Applicant appreciates the Examiner's attention to detail in this case and has made the changes suggested by the Examiner.

In view of the above, it is submitted that the claims are in condition for allowance and reconsideration of the rejections is respectfully requested. Allowance of claims 1-28 at an early date is solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including any extension of time fees, to Deposit Account No. 08-2025 and please credit any excess fees to such deposit account.

Respectfully submitted,



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